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L1	ebay.com and auction$	1	L1

END OF SEARCH HISTORY

L1: Entry 1 of 1   File: USPT   Sep 4, 2001

DOCUMENT-IDENTIFIER: US 6285989 B1
TITLE: Universal on-line trading market design and deployment system

Abstract Paragraph Left (1):
A method and an apparatus for a universal auction specification system is disclosed. The universal auction specification system comprises a network accessible set of trading primitives. A script generator is used for combining the set of trading primitives into a temporal protocol script representing a particular auction specification.

Brief Summary Paragraph Right (3):
These dynamics are driving towards the creation of new and more efficient online markets that employ auction methodologies. The design, implementation and maintenance of auction solutions for these markets require sophisticated software technology.

Brief Summary Paragraph Right (4):
The following is a brief introduction to various conventional auction settings and methods, starting with "low-end" auctions and concluding with "high-end" ones.

Brief Summary Paragraph Right (5):
The above is only a synopsis of the space of auction types. It is possible to enumerate many dozens of other auctions and variants thereof. In addition to these codified auctions, but which we mean types of auction that are well established, deployed, and studied, there exist essentially an infinite space of possible auctions, each defined by particular idiosyncratic rules and parameters.

Brief Summary Paragraph Right (6):
A good example of idiosyncrasy of high-end auctions is the design of the California Power Exchange (the CalPX, or simply PX). The PX is a double auction in which buyers and sellers of electrical power trade on a daily basis. The PX is designed to support at least two kinds of market--the day ahead market and the hour ahead market. In the day-ahead market twenty-four different auctions take place in parallel, one each for an hour of the next day. The rules for participation in each auction are complex, but here is a flavor. The bidding proceeds in rounds. In any given round a seller may offer to sell a certain quantity at a certain price, and a buyer may submit a similar buy bids. The price in the round is selected so that supply equals demand (the "clearing price"). In the next round, a seller may only decrease his bid, and a buyer may only increase it (in both cases there is a minimum change required). In addition to these rather simple rules, there is an additional rule, which is designed to encourage bidders to bid meaningfully rather than wait to the last round before doing so. According to this "activity rule", a seller whose price exceeded the clearing price in the previous round must improve his/her bid, or forever lose the right to do so (a similar rule applies to buyers). Finally, in addition to this activity rule, bidders may (irrevocably) withdraw bids.

Brief Summary Paragraph Right (7):
The reasons for this particular design are too complex to go into, and irrelevant to the current invention. The point of this example is that in that particular context there was a need to design a novel auction mechanism, different from any that existed previously. Similar phenomena have occurred in national spectrum auction designs (for example in the US, New Zealand, Australia, Mexico, and other locations), other energy auctions, offshore oil drilling rights, and many other

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L1: Entry 1 of 1   File: USPT   Sep 4, 2001

US-PAT-NO: 6285989
DOCUMENT-IDENTIFIER: US 6285989 B1

TITLE: Universal on-line trading market design and deployment system

DATE-ISSUED: September 4, 2001

INVENTOR-INFORMATION:

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APPL-NO: 9/ 131048   [PALM]
DATE FILED: August 7, 1998

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FIELD-OF-SEARCH: 705/37, 705/35, 707/505, 707/506, 707/507, 707/508, 345/962, 372/38, 395/701

PRIOR-ART-DISCLOSED:

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| Search Selected | Search ALL |

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☐ 5794219	August 1998	Brown	705/37
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ART-UNIT: 214
PRIMARY-EXAMINER: Millin; V.
ASSISTANT-EXAMINER: Kanof; Pedro R.
ATTY-AGENT-FIRM: Blakely, Sokoloff, Taylor & Zafman LLP

ABSTRACT:

A method and an apparatus for a universal auction specification system is disclosed. The universal auction specification system comprises a network accessible set of trading primitives. A script generator is used for combining the set of trading primitives into a temporal protocol script representing a particular auction specification.

13 Claims, 7 Drawing figures

settings.

Brief Summary Paragraph Right (8):
Despite the in-principle infinite span of possible auctions, the set of primitives
underlying the various auctions is relatively small. It is this observation that
underlies the present inventions, and which allows the construction a universal
engine for the rapid creation and deployment of an essentially unlimited number of
auction types.

Brief Summary Paragraph Right (9):
While thousands of auctions take place today on the Internet, they are consumer
oriented, and by necessity of the low-end variety. Such auctions are conducted by
online auction services, such as Onsale.com, eBay.com, and Priceline.com. In
addition the technology developed by such firms in-house, several toolkits exist in
the prior art with which to construct and run simple auctions. Examples include
Opensite and Bonsai Software, as briefly described below. The auctions supported by
these systems are low-end ones, though a certain degree of customization is allowed
(for example, specifying the duration of the auction or selecting among several
simple auction formats). Following is a brief discussion of some of these
technologies.

Brief Summary Paragraph Right (10):
The products of OpenSite, Inc. and Bonsai, Inc. represent well the state of the art
in Internet-based auction toolkits and solutions. OpenSite offers solutions for
hosting online, interactive Internet auctions. OpenSite sells three types of auction
software solutions, which correspond to small, medium and large businesses. Opensite
offers four different types of auctions. The additional configuration of the product
to the customer's environment is extremely limited, and thus the software cannot be
applied universally to a wide range of different types of customers. Similarly,
Bonsai builds custom online auctions for particular applications. Its core product,
EasyAuction, is very basic auction system. To implement specific auction types,
Bonsai must resort to standard, labor-intensive custom software development.

Brief Summary Paragraph Right (11):
The product of Moai, Inc. typifies products that are not auction products in
themselves but rather specific software solutions, which embody auction technology.
Moai builds software for creating online auctioning solutions for manufacturers or
resellers, to sell surplus-goods and excess inventories. While Moai's software
solution can be tailored to meet the needs of the customer, the auction style and
mechanism do not change from one environment to the other. In that respect, the type
of customers that Moai can cater to are limited by the applicability of the specific
auction type that Moai uses.

Brief Summary Paragraph Right (12):
Onsale, Inc. and Priceline, Inc. are the best representatives of Internet-based
auction houses procure goods. Both have developed in-house software with which to
conduct auctions. These home-brew systems were designed to the specific needs of the
companies, and do not have the universal functionality to be modified readily, to be
deployed in a completely different business context that may require auction
solutions. The software is not available for easy deployment as a package, without
massive customization, to other environments that require auctioning solutions.

Brief Summary Paragraph Right (13):
The Industrywide Mortgage Exchange (IMX), FastParts, and the National Transportation
Exchange (NTE) are good representatives of industry-wide online auctions. In each
case one or more standardized goods (mortgages, DRAM chips, trucking capacity) are
bought and sold on an open exchange, much like the securities on the financial
exchanges. Again, these systems are without exception built specifically for a
particular type of market and cannot be easily or economically re-configured for
other types of markets.

Brief Summary Paragraph Right (14):
When one moves from the low-end of auctions to the high end, the custom-building
approach is particularly apparent. Auction systems have been built in a one-off
fashion, costing many millions of dollars and taking a very long time to build.
These auctions are always suited only for the particular applications for which they
were designed. Examples include the software developed for financial exchanges such
as the London Stock Exchange and NASDAQ, the California Power Exchange, and the
software developed for Federal Communications Commission (FCC) spectrum auction.

Each of these systems was developed over many months and typically over years, and has cost from several million dollars to several hundred million dollars. These systems are also quite inflexible, constituting systems suitable for a particular application and not adaptable for the general case. A good example is provides by the CalPX). Its development cost upward of $50M, and it has proved frustrating to introduce even minor modifications to the system; these have tended to entail major surgeries on the system as a whole. Indeed, the very initial design was not implemented initially, since the software could not accommodate iterations.

Brief Summary Paragraph Right (16):
Closest to filling this gap has been AuctionBot, a software system built by Dr. Michael Wellman and his colleagues at the University of Michigan. AuctionBot is a service that allows a party to start one of several kinds of auction, and then proceeds to run and manage the auction--accepting bids, notifying bidders of auction results, et cetera. It is to our knowledge the most versatile such service. The auctions it supports include M.sup.th and M+1.sup.st price auction (which are generalizations of .sup.st - and 2.sup.nd -price auction, respectively, to the case in which multiple units of good are being sold, possibly by multiple sellers), English auction. However, AuctionBot too suffers an inherent shortcoming--while it supports a broader set of auctions than other services, there is nothing universal or extensible about that set. In particular, if one wishes to add a new auction type to AuctionBot, for all intents and purposes one must write a brand-new program. In particular, AuctionBot cannot support activity rules of the sort encountered in industrial markets such as the FCC spectrum auction and the CalPX.

Brief Summary Paragraph Right (19):
The present invention is a method and apparatus that can be used to build any type of online auction using building blocks of its software technology. It includes a generic toolkit that can be used to build auction solutions ranging from simple to very complex and sophisticated auctions.

Brief Summary Paragraph Right (20):
The invention includes a universal auction specification system including a network accessible set of trading primitives and a script generator for combining the set of primitives into a temporal protocol script representing a particular auction specification. The system also includes a script interpreter for interpreting a temporal protocol script representing a particular auction specification, the script including references to at least a portion of the set of trading primitives.

Brief summary Paragraph Center (4):
Background on Auction Theory and Practice

Brief summary Paragraph Center (5):
Background on Internet-based Auctions

Brief Summary Paragraph Type 0 (1):
(1) Setting: Single seller, multiple buyers. Methods: The four well-known basic types are English auction, Dutch auction, first price sealed-bid auction, and second-price sealed-bid auction. These auctions and related ones have been well studied and continue to be so.

Brief Summary Paragraph Type 0 (2):
(2) Setting: Single seller, multiple units of goods. Methods: Auctions for such situations are only slightly more complex, but essentially are a natural generalization of the first kinds of auction.

Brief Summary Paragraph Type 0 (3):
(3) Setting: Multiple buyers and sellers. Methods: Variety of double auctions. In some cases the previous methods extend well, in others not at all (see below).

Brief Summary Paragraph Type 0 (4):
(4) Setting: Multiple buyers and sellers interacting repeatedly. Methods: Continuous Double Auctions, prime examples of which are the financial and commodity exchanges.

Brief Summary Paragraph Type 0 (5):
(5) Setting: Multiple goods with complementarities and substitutabilities. Methods: Vary. In any of the above settings, if multiple goods are sold whose values interact (i.e., if the value of a bundle of goods is not equal to the sum of the values of the individual goods), the auction design can be challenging. Known theoretical

solutions, such as the Generalized Vuckrey Auction or the Clark-Grove tax mechanism, are not applicable in practice. Some pragmatic alternatives that have been experimented with include menu bidding and the simultaneous ascending bid auction with activity rules.

Brief Summary Paragraph Type 0 (6):
(6) Setting: Extra-economical constraints. Method: Activity rules. Often the auction is conducted within a business context that prescribes or precludes certain actions. A typical example is presented by regulatory constraints, that preclude selling certain goods to buyers with excessive market power.

Detailed Description Paragraph Right (4):
The role of the Market-Specification Console (MSC) 110 is to make to the market designer available the full spectrum of market protocols, and available in an intuitive fashion. These market protocols range from simple auctions such as English, Dutch, 1.sup.st and 2.sup.nd price auctions, to highly complex auctions such as those conducted on the trading floors of financial exchanges and the CalPX. The repertoire of auctions includes, but is not limited to, the ones provided and classified in Table 1 below.

Detailed Description Paragraph Right (7):
There are two ways in which a market designer defines a market. The first is by selecting among one of the market protocols already residing on the PAS 140, and specifying the values of the relevant parameters in that protocol. For example, specifying the minimum increment and start time in an English auction. However, this method alone is inherently flawed, since the space of possible market designs is infinite, and any fixed repertoire of built-in auctions, rich as it may be, is guaranteed to fall short. The crux of the present invention is the ability to define novel market protocols suited to any given situation.

Detailed Description Paragraph Right (9):
The market entities include sellers, buyers, an auctioneer, dealers, specialists, settlement agencies, accreditation bodies, and other entities.

Detailed Description Paragraph Right (12):
A simple way to specify a time line is to list the steps exhaustively, and tag each step for the time at which, and conditions under which, the step is taken. The time can refer to absolute time or to time relative to other events in the execution stream ("after five minutes of inactivity close the auction"). Conditions can refer to any information that is part of the execution, and in particular the termination conditions of other steps ("if the last bid was for $x, then set the minimum next bid at $x+10").

Detailed Description Paragraph Right (15):
The extreme versatility of the MSC 110 calls for commensurate versatility on the part of the Programmable Auction Server (PAS) 140. Indeed, at the core of the PAS 140 is an interpreter for CommerceScript, a built-in implementation of the TPs, and a built-in set of market protocols. The script interpreter 141 is illustrated in FIG. 1. Importantly, the PAS 140 is extensible. Both the built-in set of TPs and the built-in set of market protocols can be enriched by a market designer submitted a new ones. Each augmented market protocol is called a Trading Cartridge; there is in principle no bound on the range of allowable Trading Cartridges, other than the pragmatic limitations of the PAS 140 in terms of computer memory and other computational resources. In the preferred embodiment, the set of TPs is augmentable in a more cautious way for security and robustness reasons. We discussed this topic next.

Detailed Description Paragraph Right (20):
The UTC 120 offers the trader two functionalities--display of information, and bid input. The information displayed to the user is of kinds: 1) activities on the PAS 140, and 2) ancillary information. PAS 140 activities are in principle any event logged by the PAS 140, such as the start of an auction, the bids placed, and the prices cleared. Actual information displayed will vary dramatically from one market to another, reflecting the different market designs. In particular, the amount of information displayed may vary. For example, two Simultaneous Ascending Bids auctions may vary on the information disclosure policy, with the one auction releasing after each round the entire list of bidders and their bid in that round, whereas another might release only the aggregate bids supplied with no bidder-specific information. Ancillary information may be any information that is

relevant to making trade decisions but that is not inherent in the market activity. For example, in energy markets as well as many other futures markets weather forecasts turn out to be quite important.

Detailed Description Paragraph Right (21):
The bids entered by the trader are entered in one of two ways--direct bidding, or proxy bidding. In direct bidding the bidder manually selects an auction and enters a bid using the computer keyboard and mouse. In proxy bidding, the user defines a script that bids on his or her behalf in one or more auctions running on the PAS 140. As part of the proxy bid, the trader also specifies whether the script is to run on the trader's machine (i.e. proxy bidder 509), or be transmitted to the PAS 140 and run there (i.e. proxy bidder 508).

Detailed Description Paragraph Right (22):
The challenge in delivering these two functionalities--information dissemination and bidding collection--is the wide variance in the format of both the information and the bids among different types of auctions. In the preferred embodiment, this diversity is accommodated by introducing a database layer between the PAS 140 and the UTC 120. For each auction type, several specific database schemas must be introduced. The PAS 140 populates the database with specific data and that data is displayed in the UTC 120 automatically using dynamic HTML. The key feature of this design is that while the database tables in the PAS 140 must be created specifically for the particular auction, the UTC 120 requires no modification.

Detailed Description Paragraph Right (25):
Referring to FIG. 2, the first tier 110 includes a front-end database 112 and Web applications running on Web server(s) 111 that constitute the interface between the users 114 and the back-end 116 of the system. Authorized users may access the system through a web browser. The Graphical User Interface (GUI) may be run either as a Java Applet or as a common HTML (depending on the user's choice and browser version). The Java and HTML programming languages are well known to those of ordinary skill in the art. To secure the system, the Web application is surrounded by a firewall 122 in a DMZ (Demilitarized Zone) configuration making it almost impossible to penetrate the application server(s) 120. The application's logic constitutes the second tier 115. The middleware 130 environment is component-based allowing high-availability and scalability. The third tier 133 contains the database 136 and the interface 138 to a market administrator's legacy systems. Note that because the output of the auctioning process is being polled by a legacy system, the full security of the legacy environment is assured at all times. This will be described in more detail below.

Detailed Description Paragraph Right (27):
Referring to FIG. 4, the processing logic of the present invention resides in a cluster of application servers 120. The application 210 includes software components that interact through a "named service" paradigm; the basic re-usable logical market components have been synthesized and distributed among the application servers 120 as services 310. These basic market components 310 will be described in more detail below. Once created, each bid, query or market event is assigned a sequence of services 310 to perform in order to fully process the bid, query, or market event. To process complex auction rules and market constraints, these services 310 share a cluster of databases 136 which maintain an updated replication of data at all times. The databases 136 that store a sequential log of the trading activity and the results data bases are accessible for inquires by the legacy system.

Detailed Description Paragraph Right (29):
The application software 210 of the present invention provides all the capabilities necessary to support multiple auctions simultaneously, with the inherent flexibility to conform to the unique requirements and environment of each auction mechanism. The underlying structure of the software of the present invention makes it easy to define the rules of the auction (e.g., minimum accepted bids, bidding increments and length of rounds, etc), sequences of activity, required data elements, critical events, activity and flow requirements. This universal configurability is described in more detail below.

Detailed Description Paragraph Right (31):
General services 420 represent the services common to all supported market types. These services may include, for example, bid time-stamping or bid logging. The market specific services 430 represent services specific to a particular type of market or a specific individual market. For example, a service supporting a request

to submit a bid for multiple goods in a single round would not be appropriate in an English auction. By partitioning the services into a general or market specific type, the present invention allows a new market type to be supported by substituting the market specific services 430 of the new market type for the market specific services of the old market type. The transaction monitor 410 and the general services 420 can remain intact. In this manner, new markets may be quickly and inexpensively created or modified.

Detailed Description Paragraph Right (39):
The graphical user interface (GUI) of the present invention allows users, either auction administration staff or bidders, to view the results for a desired auction round and to create custom file formats of the results for downloading. The GUI runs on the client computer system 114. The GUI provides screens that display the results of each round as well as auction administration screens that display real-time bidding activity. The GUI software allows the auctioneer's administration staff to post general announcements concerning the auction in real-time (e.g., the auction schedule) and to post urgent messages to all bidders (e.g., a round has been extended). In addition, the GUI software allows users to submit a report of all suggestions for the auction administration staff to review.

Detailed Description Paragraph Right (40):
Any trading step that occurs in the system (e.g., login of the trader, approval of a query, change of clearing price, reduced eligibility, etc.) is time-stamped and logged in activity log 480. In addition, the system maintains a special database 490 for storing the final results and parameters for each auction. The system supports an on-line display of global cross auction activities and statistics. This functionality provides a wide variety of reports for the various phases of the trading process. Auction reports include all bids in the round, the high bids at the end of the round, the withdrawn bids, the maximum eligibility amounts for each bidder, and the minimum accepted bid amounts for the next round.

Detailed Description Paragraph Center (4):
The Programmable Auction Server (PAS)

Detailed Description Paragraph Type 0 (1):
1. A Market-Specification Console (MSC) 110. This component consists of a computer running a program with which a market designer may specify any of an infinite number of possible market protocols, and then submit ("upload") the defined market to the Programmable Auction Server (PAS) 140 for execution. These markets can be as simple as English or Dutch auction with some parameters filled in, or an arbitrary novel design never encountered before.

Detailed Description Paragraph Type 0 (2):
2. A Programmable Auction Server (PAS) 140. This component consists of a computer running a program, which can accept multiple market, protocols submitted to it from market-specification consoles, and executes those protocols as prescribed. Such execution includes, but is not limited to, opening auctions, accepting bids, clearing prices, notifying traders of market events, and closing auctions.

Detailed Description Paragraph Type 1 (5):
Market Creator--The present invention allows a market creator to define all the administrative data, activity parameters, processing constraints, and general rules that make the market (e.g. number and names of auctions, clearing-price rules, names and access authorizations of traders, inter-processing dependencies, bid flow constraints, etc.). These settings are provided to the system through the Graphical User Interface.

Detailed Description Paragraph Type 1 (6):
Legacy--The legacy system is a conventional system and typically an auction-specific system that retrieves statistics and results of auctions from the present invention.

Detailed Description Paragraph Type 1 (11):
Handle Event--Initiated by the system. The market creator determines which events are the significant events (e.g., sudden shift of eligibility from one action within a group to another, a close of an auction, sudden global price drop in the market, significant change in trading volume, etc.). The logger logs all events.

Detailed Description Paragraph Type 1 (13):

Maintain results--Initiated by the legacy system to get auction results.

Detailed Description Paragraph Type 2 (3):
B. Heterogeneous items: Same options as above, plus Simultaneous, iterative, ascending price (e.g., FCC spectrum auction) Generalized Vickrey auction

Detailed Description Paragraph Type 3 (1):
Auctioneer asks whether there are new bids

Detailed Description Paragraph Table (1):
TABLE 2 Entity with Permission Primitive Description Market Define trade items Specify goods to be traded Operator Market Define bid format Self-explanatory Operator Market Define disclosed Self-explanatory Operator information format Market Define pricing rule Self-explanatory Operator Market Define allocation rule Self-explanatory Operator Market Disclose information Self-explanatory Operator requested by an individual Market Broadcast unsolicited Self-explanatory Operator information Market Start negotiation phase Self-explanatory Operator Market Conclude negotiation Self-explanatory Operator phase Market Close market protocol Self-explanatory Operator Market Announce market Self-explanatory Operator protocol results Trader Register item for sale Self-explanatory Trader Post security in escrow Self-explanatory account Trader Submit bid Self-explanatory Trader Withdraw bid Self-explanatory Trader Make bilateral offer Self-explanatory Trader Request information Self-explanatory Market Define Simple Bid Examples: Operator restrictions Minimum bid intervals (bids must be in even $1 quantities for example) Permitted currencies for bids (dollars, yen, . . .) Market Define Market Based Examples: Operator Restrictions No one is permitted to bid on good A and good B. More generally no one is permitted to bid on specified combinations of goods. Market Define Trader Specific Examples: Operator Restrictions Trader A is not permitted to bid on good P. Trader B is not permitted to bid more than a total of X dollars. Market Define Trader Eligibility A specialization of Trader Operator Restrictions Restrictions that is common enough to warrant its own category. Example: Trader A may not bid fewer $ than in a previous stage of the auction. Market Define Trader Activity Another specialization of Trader Operator Restrictions Restrictions that is common and warrants its own category. Example: Trader A must submit a winning bid every Z hours to continue participating in the auction. Market Define Dynamic Dynamic in the sense that the Operator Restrictions of the above restriction becomes active types. based on some event in the market. Example: If trader A modifies a bid by more than Z % then close access to the market for trader A and investigate for gaming behavior. Market Define Information These rights define what Operator Access Rights information is available to which participants. For example, buyers, sellers, observers, and auditors may have very different permissions. Market Define Logging Structure The system is very modular and Operator allows flexible logging. For example a market operator may specify that bids should be logged after specific stages (after entry into system, after passing restriction checks, after auction processing, . . .) The detail of the log information will also be controllable. Market Define Bid Priority Rules Bid A is Better than Bid B if: Operator 1) the price in A is greater than the price in B, 2) Or, if equal prices then if time of bid A is earlier than time for B, . . . Trader Register May be extensive and involve financial deposits, or could be quick involving identification only. Trader Receive Confirmations Auction may send confirmations of bids, information requests, trades, . . . Settlement Receive Trade Details Describes what goods and funds Agency must be transferred between traders.

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Other Reference Publication (2):
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Other Reference Publication (5):
OpenSite Technologies Introduces Innovative Web Auction Partner Program, Business Wire Page: 08041472, Aug. 4, 1998.*

Other Reference Publication (8):
Going . . . Going . . . Gone!(FairMarket's Web Auction site, and Emaze Software's
Emaze Auction Web_auction software), Cohen, Emily, PC Magazine, vol. v17 Issue n15,
Sep. 1, 1998, May 1998.*

Other Reference Publication (10):
ONSALE, Auction Formats, 1996, 2 pages.

Other Reference Publication (11):
ONSALE, Auction Supersite, Sep. 8, 1997, 7 pages.

CLAIMS:

1. A universal auction specification system comprising:

a market-specification console configured to receive at least one market protocol,
the market-specification console submits a market defined by the at least one market
protocol to a programmable auction server;

the programmable auction server executes at least one built-in trading primitive and
at least one network augmented nonstandard trading primitive; and

a script generator for combining the set of trading primitives into a temporal
protocol script representing a particular auction specification.

2. The universal auction specification system as claimed in claim 1, wherein the
scripting generator is a graphical user interface based tool.

3. A programmable auction server comprising:

a network accessible set of built-in trading primitives and network augmented
nonstandard trading primitives; and

a script interpreter for interpreting a temporal protocol script representing a
particular auction specification, the script including references to at least a
portion of the set of trading primitives.

4. The programmable auction server as claimed in claim 3 further including:

means for receiving a client market request via a network;

means for associating the client request with at least one market specific service,
said service being independently installable;

means for accessing market specific information, said market specific information
being independently stored; and

means for processing the client market request to produce a result.

5. The programmable auction server as claimed in claim 4 wherein said market
specific information further includes rules and constraints.

6. The programmable auction server as claimed in claim 3 further including:

a dual firewall front end.

7. The programmable auction server as claimed in claim 3 further including a
registration component which registers all trades in specified markets, whether
consummated on a local server or other servers.

8. The programmable auction server as claimed in claim 3 further including a set of
application program interfaces for program trading over the network.

9. The programmable auction server as claimed in claim 3 further including a market
administration console.

Hit List

Search Results - Record(s) 1 through 10 of 13 returned.

☐ 1. Document ID: EP 1111529 A2

Using default format because multiple data bases are involved.

    L1: Entry 1 of 13   File: EPAB   Jun 27, 2001

PUB-NO: EP001111529A2
DOCUMENT-IDENTIFIER: EP 1111529 A2
TITLE: Method and apparatus for obtaining components

PUBN-DATE: June 27, 2001

INVENTOR-INFORMATION:
NAME   COUNTRY
BRODERSEN, ANDREW N JR   US

INT-CL (IPC): G06 F 17/60
EUR-CL (EPC): G06F017/60; G06F017/60

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D |

☐ 2. Document ID: US 6618751 B1

    L1: Entry 2 of 13   File: DWPI   Sep 9, 2003

DERWENT-ACC-NO: 2003-764727
DERWENT-WEEK: 200372
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Web page publication method involves publishing updated versions of web page
in single action after expiration time of previously published versions of web
pages have elapsed

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D |

☐ 3. Document ID: WO 2003030041 A2, GB 2380295 A, GB 2382162 A

    L1: Entry 3 of 13   File: DWPI   Apr 10, 2003

DERWENT-ACC-NO: 2003-313893
DERWENT-WEEK: 200361
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Data processing method for processing bids in interactive <u>auctions</u> having
live phase during which bids are accepted and <u>auction</u> close following which bids
are no longer accepted

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 4.   Document ID: CA 2394503 A1, US 20030026231 A1

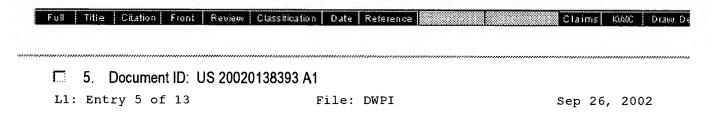L1: Entry 4 of 13   File: DWPI   Jan 23, 2003

DERWENT-ACC-NO: 2003-299782
DERWENT-WEEK: 200329
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Information transmission system for cellular phone, has <u>proxy</u> content server
which stores information received from <u>web</u> server, in channels based on predefined
information categories for transmission to mobile device

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 5.   Document ID: US 20020138393 A1

L1: Entry 5 of 13   File: DWPI   Sep 26, 2002

DERWENT-ACC-NO: 2002-740576
DERWENT-WEEK: 200280
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Online goods <u>auctioning</u> method through <u>internet,</u> involves submitting bids
for buyer automatically, until current bid amount for buyer exceeds <u>proxy</u> bid
amount

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 6.   Document ID: US 20020038282 A1

L1: Entry 6 of 13   File: DWPI   Mar 28, 2002

DERWENT-ACC-NO: 2002-434193
DERWENT-WEEK: 200246
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Interaction automation method in electronic commerce <u>auction</u> site, involves
enabling interaction between scan agent and bid <u>proxy</u> to place the bid of buyer and
computing higher bid if counteroffer is accepted by <u>auction</u> site

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

☐ 7.   Document ID: KR 2002012480 A

L1: Entry 7 of 13   File: DWPI   Feb 16, 2002

DERWENT-ACC-NO: 2002-544798
DERWENT-WEEK: 200258
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: System and method for bidding service

```
Full | Title | Citation | Front | Review | Classification | Date | Reference |          |          | Claims | KWIC | Draw De
```

☐   8.   Document ID: TW 544609 A, US 20010044771 A1, WO 200188818 A2, AU 200161682 A, GB
2379537 A, KR 2003023864 A, DE 10196187 T, CN 1439138 A

L1: Entry 8 of 13   File: DWPI   Aug 1, 2003

DERWENT-ACC-NO: 2002-054890
DERWENT-WEEK: 200411
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Electronic trading of financial instruments e.g. stocks, bonds, swaps,
involves providing electronic auction for swap with terms indicated by user using
electronic swap term sheet

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Full | Title | Citation | Front | Review | Classification | Date | Reference |          |          | Claims | KWIC | Draw De
```

☐   9.   Document ID: CA 2305834 A1

L1: Entry 9 of 13   File: DWPI   Oct 14, 2001

DERWENT-ACC-NO: 2002-206610
DERWENT-WEEK: 200227
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Proxy bidding method for Internet auction sites that allows sniping i.e.
placing bid at the latest possible time to ensure no subsequent bids can succeed
the current bid

```
Full | Title | Citation | Front | Review | Classification | Date | Reference |          |          | Claims | KWIC | Draw De
```

☐   10.   Document ID: WO 200165380 A1, AU 200141777 A, US 20010034709 A1

L1: Entry 10 of 13   File: DWPI   Sep 7, 2001

DERWENT-ACC-NO: 2001-596781
DERWENT-WEEK: 200204
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Method of private browsing of web sites by assigning randomly-generated
identification to user

```
Full | Title | Citation | Front | Review | Classification | Date | Reference |          |          | Claims | KWIC | Draw De
```

Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS

Terms	Documents
proxy and (auction$ or bidding) and (internet or onlin or www or web)	13

Display Format: |- | Change Format

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| Generate OACS |

Search Results - Record(s) 11 through 13 of 13 returned.

☐ 11.   Document ID: WO 200058885 A2, AU 200035019 A

Using default format because multiple data bases are involved.

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L1: Entry 11 of 13                      File: DWPI              Oct 5, 2000


DERWENT-ACC-NO: 2001-080042
DERWENT-WEEK: 200109
COPYRIGHT 2004 DERWENT INFORMATION LTD
TITLE: Continuous online auction system e.g. for vehicle, modifies one or more
seller parameters included in received product data, based on one or more auction
parameters related to product

INVENTOR: ADELI, M; LE, D ; LEE, J S ; RATHWICK, Z A ; TEDESCO, M C ; WAGONER, K
J ; WALKER, T

PRIORITY-DATA: 1999US-0283120 (March 31, 1999)


PATENT-FAMILY:
PUB-NO                 PUB-DATE              LANGUAGE      PAGES    MAIN-IPC
WO 200058885 A2        October 5, 2000       E             035      G06F017/60
AU 200035019 A         October 16, 2000                    000      G06F017/60


INT-CL (IPC): G06 F 17/60
```

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | | Claims | KWIC | Draw De |

☐ 12.   Document ID: EP 1041502 A2, KR 2000071492 A, CN 1268714 A, JP 2000306035 A

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L1: Entry 12 of 13                      File: DWPI              Oct 4, 2000


DERWENT-ACC-NO: 2001-042265
DERWENT-WEEK: 200131
COPYRIGHT 2004 DERWENT INFORMATION LTD


TITLE: Mobile based auction interaction has mobile telephone connected via proxy
server that provides a link to auction server
```

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | | Claims | KWIC | Draw De |

☐ 13.   Document ID: KR 2002026886 A, WO 200008578 A1, AU 9952433 A, EP 1101180 A1, US

6285989 B1, BR 9912851 A, KR 2001079626 A, JP 2002526820 W

L1: Entry 13 of 13   File: DWPI   Apr 12, 2002

DERWENT-ACC-NO: 2000-195711
DERWENT-WEEK: 200267
COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Universal <u>auction</u> system for trading market using computer network

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw De |

| Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS |

Terms	Documents
proxy and (auction$ or bidding) and (internet or onlin or www or web)	13

Display Format: |- ░ Change Format ░

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WEST

End of Result Set

☐ | Generate Collection | | Print |

L1: Entry 1 of 1   File: USPT   Oct 6, 1998

US-PAT-NO: 5818914
DOCUMENT-IDENTIFIER: US 5818914 A

TITLE: Auction information transmission processing system

DATE-ISSUED: October 6, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fujisaki; Kiyotaka	Tokyo			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Aucnet Inc.	Tokyo			JP	03

APPL-NO: 08/ 410898   [PALM]
DATE FILED: March 27, 1995

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	6-331213	December 7, 1994

INT-CL: [06] H04 M 11/00

US-CL-ISSUED: 379/93.12; 379/93.01
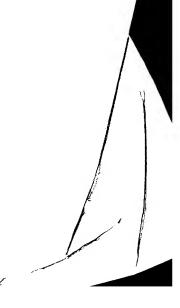US-CL-CURRENT: 379/93.12; 379/93.01

FIELD-OF-SEARCH: 395/212, 395/226, 395/227, 395/235, 395/237, 348/13-16, 348/10,
379/90, 379/93, 379/96, 379/90.01, 379/93.01, 379/93.05, 379/93.08, 379/93.12,
379/93.13, 379/93.17, 379/93.21, 379/93.25, 705/12, 705/26, 705/27, 705/35, 705/37

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

| Search Selected | | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4347498	August 1982	Lee et al.	340/825.02
☐	4763329	August 1988	Green	371/11
☐	4789928	December 1988	Fujisaki	364/401
☐	4882743	November 1989	Mahmoud	348/15
☐	4903201	February 1990	Wagner	364/408
☐	4974252	November 1990	Osborne	348/14
☐	4980826	December 1990	Wagner	364/408
☐	5038284	August 1991	Kramer	364/408
☐	5077665	December 1991	Silverman et al.	364/408
☐	5136501	August 1992	Silverman et al.	364/408
☐	5235680	August 1993	Bijnagte	395/161
☐	5414773	May 1995	Handelman	348/10
☐	5539450	July 1996	Handelman	348/13

FOREIGN PATENT DOCUMENTS

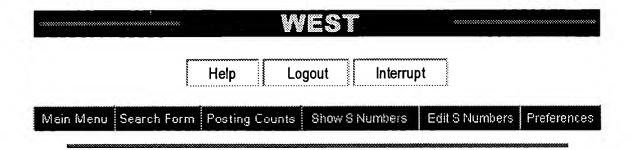| FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
0583196A1	August 1993	EP	
WO 9215174	September 1992	WO	

ART-UNIT: 273

PRIMARY-EXAMINER: Chan; Jason

ABSTRACT:

An auction information transmission processing system in an auction information
transmission system which is constructed by connecting a single most significant
front computer to a host computer, connecting a plurality of intermediate front
computers and a plurality of least significant front computers to the most
significant front computer in a tree-like configuration via communication lines, and
connecting a plurality of dealer terminals to each of the least significant front
computers via communication lines. The host computer connects to a satellite signal
transmitter for transmitting auction data signals and other signals to a satellite
through a satellite communication line, and each dealer terminal is provided with a
satellite signal receiver for receiving the signals transmitted from the host
computer through the satellite communication line.

14 Claims, 8 Drawing figures

WEST

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Search Results -

Terms	Documents
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Database:
- US Patents Full-Text Database
- US Pre-Grant Publication Full-Text Database
- JPO Abstracts Database
- EPO Abstracts Database
- Derwent World Patents Index
- IBM Technical Disclosure Bulletins

Refine Search: `(((credit$ with card$1) with (devoid$ or destitud$ or depriv$ or divest$) with account$1 and author$1` | Clear |

Search History

Today's Date: 1/17/2002

DB Name	Query	Hit Count	Set Name
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USPT	(((credit$ with card$1) with (devoid$ or destitud$ or depriv$ or divest$) with account$) and author$).clm.	0	L3
USPT	(((credit$ with card$1) with (devoid$ or destitud$ or depriv$ or divest$) with account$) and author$).clm.	0	L2
USPT	(((credit$ adj card$1) with (devoid$ or destitud$ or depriv$ or divest$) with account$) and author$).clm.	0	L1

WEST

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L1: Entry 1 of 1   File: USPT   Mar 28, 2000

US-PAT-NO: 6044363
DOCUMENT-IDENTIFIER: US 6044363 A

TITLE: Automatic auction method

DATE-ISSUED: March 28, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Mori; Masakatsu	Yokohama			JP
Ogura; Masahiro	Sakura			JP
Takeshima; Masahiro	Tokyo			JP
Arai; Kenji	Tokyo			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Hitachi, Ltd.	Tokyo			JP	03

APPL-NO: 08/ 916154   [PALM]
DATE FILED: September 2, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	8-233918	September 4, 1996

INT-CL: [07] G06 F 17/60

US-CL-ISSUED: 705/37; 705/8, 705/26, 705/27, 705/37, 705/38, 395/286
US-CL-CURRENT: 705/37; 705/26, 705/27, 705/38, 705/8, 710/106

FIELD-OF-SEARCH: 705/37, 705/26, 705/27, 705/38, 395/286

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

| Search Selected | Search ALL |

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
☐	4789928	December 1988	Fujisaki	
☐	5136501	August 1992	Silverman et al.	705/38
☐	5689652	November 1997	Lupien et al.	705/37
☐	5826244	October 1998	Huberman	705/37
☐	5835896	November 1998	Fisher et al.	705/37
☐	5890138	March 1999	Godin et al.	705/26
☐	5905974	May 1999	Fraser et al.	705/37
☐	5905975	May 1999	Ausubel	705/37

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
628 920	December 1994	EP	705/37
7-073251	March 1995	JP	
1489571	October 1977	GB	
WO92/15174	March 1992	WO	

OTHER PUBLICATIONS

"Is there a future in wholesale marketplaces", edited by Shigeo Akitani/Food distribution study society and published by Japan economic newspaper company, 1996, pp. 140-143.
Haggle Online, Proxy Bidding, http://www.haggle.com/proxy.html, 1996.
eBay Inc, Proxy Bidding, http://pages.ebay.com/aw/proxy-bidding.html, 1995.
eBay Inc, Proxy Bidding, http://pages.ebay.com/aw/help/help-t-bid-prxy.html, 1995.
eBay Inc, Bidding, http://pages.ebay.com/aw/nut-bid4.html, 1995.

ART-UNIT: 274

PRIMARY-EXAMINER: Trammell; James P.

ASSISTANT-EXAMINER: Nguyen; Nga B.

ABSTRACT:

In automatic auction method which makes it unnecessary for bidders to stay before auction terminals at the time of auction and which makes possible auction transactions on an open network on which it is difficult to assure the on-line and real time properties, a plurality of auction ordering information pieces each containing a desired price, number of purchase, and a highest possible price in competition for the desired price and received from bidder terminals via on-line circuits are collected. Until an auction issue appears, the price is lowered. If there is at least one auction issue and a desired quantity which is the sum total of the numbers of purchase of the auction issues is not satisfied, then it is determined whether there is an auction issue coinciding in price by comparing the set price with (the desired price+the highest possible price in competition). Until the desired quantity is satisfied, the price is raised.

16 Claims, 20 Drawing figures